

SEQUENCE LISTING

<110> Field, Loren J.
Tsai, Shih-Chong

<120> P193 PROTEINS AND NUCLEIC ACIDS, AND USES THEREOF

<130> IU99-PCT

<140> Not Yet Known

<141> 2000-08-23

<150> 60/150,266

<151> 1999-08-23

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<170> PatentIn Ver. 2.1

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Glu Asp Lys Ser Lys Lys Glu Glu Ala Ile Gly Glu Ala Ala Val
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Ala Ser Val Cys Gln Met Leu Asn Pro Ala Thr Cys Leu Pro Ala Tyr
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Pro Gln Thr Tyr Leu Gln Ala Glu Ala Glu Glu Gly Arg Asn Met Glu
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5053

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 Ala Gly Ala Leu Asp Lys Ser Val Leu Gly Glu Met Glu Thr Asp Val
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 Lys Ser Leu Ile Gln Arg Ala Leu Arg Gln Leu Glu Glu Cys Val Gly
 115 120 125
 Thr Val Pro Pro Ala Pro Leu Leu His Thr Val His Val Leu Ser Ala
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 Trp Ser Ala Gly Arg Met Ile Gln Ala Leu Ser Ser His Asp Ala Gly
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 610 615 620
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 675 680 685
 Ala Cys Val Thr Cys Leu Arg Ser Pro Asn Thr Asp Arg Glu Val Leu
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 Asp Met Val Ser Lys Cys Glu Lys His Ala His Leu Tyr Arg Lys Leu
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 Lys Glu Leu Asn Thr Val Asn Val Met Pro Ser Ala Ser Arg Val Thr
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 Met Val Gly Glu Leu Arg Tyr Arg Glu
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ttc agg gtg ccc ctg ggg ccc ggc tta cat gcc tat cct gat gag ctg 161
 Phe Arg Val Pro Leu Gly Pro Gly Leu His Ala Tyr Pro Asp Glu Leu
 10 15 20 25

atc cgc cag cgc gtg ggc cat gat ggg cat cct gag tac cag atc cgt 209

Ile	Arg	Gln	Arg	Val	Gly	His	Asp	Gly	His	Pro	Glu	Tyr	Gln	Ile	Arg		
				30					35					40			
tgg	ctc	atc	ctg	cgg	cgt	ggc	gat	gag	ggg	gac	ggg	ggc	tct	ggc	caa	257	
Trp	Leu	Ile	Leu	Arg	Arg	Gly	Asp	Glu	Gly	Asp	Gly	Gly	Ser	Gly	Gln		
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gtg	gac	tgc	aag	gct	gag	cac	atc	ctg	ctg	tgg	atg	tcc	aag	gat	gag	305	
Val	Asp	Cys	Lys	Ala	Glu	His	Ile	Leu	Leu	Trp	Met	Ser	Lys	Asp	Glu		
		60					65				70						
atc	tat	gcc	aac	tgc	cac	aag	atg	ctg	ggc	gag	gat	ggc	cag	gtc	atc	353	
Ile	Tyr	Ala	Asn	Cys	His	Lys	Met	Leu	Gly	Glu	Asp	Gly	Gln	Val	Ile		
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ggg	ccc	tcc	cag	gag	tct	gca	ggg	gag	gtt	ggg	gcc	ctg	gac	aaa	tct	401	
Gly	Pro	Ser	Gln	Glu	Ser	Ala	Gly	Glu	Val	Gly	Ala	Leu	Asp	Lys	Ser		
	90				95				100					105			
gtg	ctg	gag	gag	atg	gaa	acc	gat	gtg	aag	tcc	ctc	att	cag	aga	gcc	449	
Val	Leu	Glu	Glu	Met	Glu	Thr	Asp	Val	Lys	Ser	Leu	Ile	Gln	Arg	Ala		
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ctt	cgg	cag	ctg	gag	gag	tgt	gtg	ggc	act	atc	cct	cct	gct	cct	cta	497	
Leu	Arg	Gln	Leu	Glu	Glu	Cys	Val	Gly	Thr	Ile	Pro	Pro	Ala	Pro	Leu		
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ctt	cac	act	gtc	cac	gtg	ctc	agc	gcc	tat	gcc	agc	att	gag	ccc	ctc	545	
Leu	His	Thr	Val	His	Val	Leu	Ser	Ala	Tyr	Ala	Ser	Ile	Glu	Pro	Leu		
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act	gga	gta	ttc	aag	gac	cca	agg	gtc	ctg	gac	ttg	ctc	atg	cac	atg	593	
Thr	Gly	Val	Phe	Lys	Asp	Pro	Arg	Val	Leu	Asp	Leu	Leu	Met	His	Met		
	155				160						165						
ttg	agt	agt	cct	gat	tat	cag	att	cgc	tgg	agt	gca	ggc	cgg	atg	ata	641	
Leu	Ser	Ser	Pro	Asp	Tyr	Gln	Ile	Arg	Trp	Ser	Ala	Gly	Arg	Met	Ile		
	170				175				180					185			
caa	gcc	ctg	tcc	tcc	cat	gac	gct	ggg	acc	cgg	act	cag	atc	ctt	ctg	689	
Gln	Ala	Leu	Ser	Ser	His	Asp	Ala	Gly	Thr	Arg	Thr	Gln	Ile	Leu	Leu		
			190					195						200			
tca	ctg	agc	caa	caa	gaa	gcc	att	gag	aaa	cac	ctg	gat	ttt	gac	agc	737	
Ser	Leu	Ser	Gln	Gln	Glu	Ala	Ile	Glu	Lys	His	Leu	Asp	Phe	Asp	Ser		
			205					210					215				
cgc	tgt	gct	ctg	cta	gca	ctg	ttt	gca	cag	gcc	acg	ctc	tct	gaa	cac	785	
Arg	Cys	Ala	Leu	Leu	Ala	Leu	Phe	Ala	Gln	Ala	Thr	Leu	Ser	Glu	His		
		220					225					230					
ccc	atg	tct	ttc	gag	ggc	att	cag	cta	cca	cag	gtc	cca	gga	agg	gtg	833	
Pro	Met	Ser	Phe	Glu	Gly	Ile	Gln	Leu	Pro	Gln	Val	Pro	Gly	Arg	Val		
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ctc	ttc	tcc	ctg	gtg	aag	cgg	tat	ttg	cat	gtc	acc	tcg	ctc	ctg	gat	881	
Leu	Phe	Ser	Leu	Val	Lys	Arg	Tyr	Leu	His	Val	Thr	Ser	Leu	Leu	Asp		
	250				255					260				265			
cag	ctg	aac	gac	agt	gct	gcg	gag	cca	gga	gcc	cag	aac	acc	tct	gct	929	
Gln	Leu	Asn	Asp	Ser	Ala	Ala	Glu	Pro	Gly	Ala	Gln	Asn	Thr	Ser	Ala		
			270					275					280				
cct	gag	gag	ttg	agt	ggg	gag	agg	ggt	caa	ctg	gag	ctg	gag	ttc	agt	977	
Pro	Glu	Glu	Leu	Ser	Gly	Glu	Arg	Gly	Gln	Leu	Glu	Leu	Glu	Phe	Ser		
			285				290						295				

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100

atg gcc atg ggc acc ctg atc tcg gag ctg gtg caa gcc atg cgc tgg
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300 305 310

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1073
Asp Gln Ala Ser Asp Arg Pro Arg Ser Ser Ala Arg Ser Pro Gly Ser
315 320 325

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1121
Ile Phe Gln Pro Gln Leu Ala Asp Val Ser Pro Gly Leu Pro Ala Ala
330 335 340 345

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1169
Gln Ala Gln Pro Ser Phe Arg Arg Ser Arg Arg Phe Arg Pro Arg Ser
350 355 360

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1217
Glu Phe Ala Ser Gly Asn Thr Tyr Ala Leu Tyr Val Arg Asp Thr Leu
365 370 375

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1265
Gln Pro Gly Met Arg Val Arg Met Leu Asp Asp Tyr Glu Glu Ile Ser
380 385 390

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Ala Gly Asp Glu Gly Glu Phe Arg Gln Ser Asn Asn Gly Val Pro Pro
395 400 405

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Val Gln Val Phe Trp Glu Ser Thr Gly Arg Thr Tyr Trp Val His Trp
410 415 420 425

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1409
His Met Leu Glu Ile Leu Gly Phe Glu Glu Asp Ile Glu Asp Met Val
430 435 440

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1457
Glu Ala Asp Glu Tyr Gln Gly Ala Val Ala Ser Arg Val Leu Gly Arg
445 450 455

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Ala Leu Pro Ala Trp Arg Trp Arg Pro Met Thr Glu Leu Tyr Ala Val
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cct tat gtg ctg cct gag gat gag gac act gag gag tgt gaa cac ctg
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Pro Tyr Val Leu Pro Glu Asp Glu Asp Thr Glu Glu Cys Glu His Leu
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acc ctg gct gag tgg tgg gaa ctc ctc ttc ttc atc aag aag ctg gat
1601
Thr Leu Ala Glu Trp Trp Glu Leu Leu Phe Phe Ile Lys Lys Leu Asp
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2273
Cys Leu Arg Ser Pro Asn Thr Asp Arg Glu Val Leu Gln Glu Leu Ile
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Phe Phe Leu His Arg Leu Thr Ser Val Ser Arg Asp Tyr Ala Val Val
730 735 740 745

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2369
Leu Asn Gln Leu Gly Ala Arg Asp Ala Ile Ser Lys Ala Leu Glu Lys
750 755 760

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2417
His Leu Gly Lys Leu Glu Leu Ala Gln Glu Leu Arg Asp Met Val Phe
765 770 775

aag tgt gag aag cat gcc cac ctc tac cgc aaa ctc atc acc aac atc
2465
Lys Cys Glu Lys His Ala His Leu Tyr Arg Lys Leu Ile Thr Asn Ile
780 785 790

ctg gga ggc tgc atc cag atg gtg ctg ggc cag atc gaa gac cac aga
2513
Leu Gly Gly Cys Ile Gln Met Val Leu Gly Gln Ile Glu Asp His Arg
795 800 805

cga acc cac cgg ccc atc aac atc cct ttc ttt gat gtg ttc ctc aga
2561
Arg Thr His Arg Pro Ile Asn Ile Pro Phe Phe Asp Val Phe Leu Arg
810 815 820 825

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2609
Tyr Leu Cys Gln Gly Ser Ser Val Glu Val Lys Glu Asp Lys Cys Trp
830 835 840

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2657
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845 850 855

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2705
Asp His Asn Pro Lys Thr Tyr Trp Glu Ser Asn Gly Ser Ala Gly Ser
860 865 870

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2753
His Tyr Ile Thr Leu His Met Arg Arg Gly Ile Leu Ile Arg Gln Leu
875 880 885

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2849
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910 915 920

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2897

Ser Val Asn Val Met Pro Ser Ala Ser Arg Val Ile Leu Leu Glu Asn
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Leu Thr Arg Phe Trp Pro Ile Ile Gln Ile Arg Ile Lys Arg Cys Gln
 940 945 950

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 2993

Gln Gly Gly Ile Asp Thr Arg Ile Arg Gly Leu Glu Ile Leu Gly Pro
 955 960 965

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Lys Pro Thr Phe Trp Pro Val Phe Arg Glu Gln Leu Cys Arg His Thr
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Arg Leu Phe Tyr Met Val Arg Ala Gln Ala Trp Ser Gln Asp Met Ala
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Ala Ala Gln Ala Leu Gly Lys Thr Cys Trp Glu Ala Leu Val Ser Pro
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Val Val Gln Asn Ile Thr Ser Pro Asp Glu Asp Gly Ile Ser Pro Leu
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Gly Trp Leu Leu Asp Gln Tyr Leu Glu Cys Gln Glu Ala Val Phe Asn
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Pro Gln Ser Arg Gly Pro Ala Phe Phe Ser Arg Val Arg Arg Leu Thr
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His Leu Leu Val His Val Glu Pro Cys Glu Ala Pro Pro Pro Val Val
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Ala Thr Pro Arg Pro Lys Gly Arg Asn Arg Ser His Asp Trp Ser Ser
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Leu Ala Thr Arg Gly Leu Pro Ser Ser Ile Met Arg Asn Leu Thr Arg

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 Ser Trp Arg Asp Asp Asp Phe Val Pro Arg Tyr Cys Glu His Phe Asn
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 1180 1185 1190

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 3713
 Leu Leu Ala Leu Gln Asn Gly Cys Ala Gly Ala Leu Leu Lys Leu Pro
 1195 1200 1205

 ttt ctc aaa gct gcc cac gtg agt gag cag ttc gcc cgg cac att gac
 3761
 Phe Leu Lys Ala Ala His Val Ser Glu Gln Phe Ala Arg His Ile Asp
 1210 1215 1220 1225

 cag cag atc cag ggc agc cgg atc ggt gga gcc cag gaa atg gag agg
 3809
 Gln Gln Ile Gln Gly Ser Arg Ile Gly Gly Ala Gln Glu Met Glu Arg
 1230 1235 1240

 ctg gca cag ctg cag caa tgc ctg caa gct gtc ctg att ttc tcc ggc
 3857
 Leu Ala Gln Leu Gln Gln Cys Leu Gln Ala Val Leu Ile Phe Ser Gly
 1245 1250 1255

 ttg gag ata gcc acc act ttt gag cat tat tac cag cac tac atg gcg
 3905
 Leu Glu Ile Ala Thr Thr Phe Glu His Tyr Tyr Gln His Tyr Met Ala
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 gac cgt ctc ctg ggc gtg gtc tcg agc tgg ctg gag ggg gcc gtg ctg
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 Asp Arg Leu Leu Gly Val Val Ser Ser Trp Leu Glu Gly Ala Val Leu
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 Glu Gln Ile Gly Pro Cys Phe Pro Asn Arg Leu Pro Gln Gln Met Leu
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 Gln Ser Leu Ser Thr Ser Lys Glu Leu Gln Arg Gln Phe His Val Tyr
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 Gln Leu Gln Gln Leu Asp Gln Glu Leu Leu Lys Leu Glu Asp Thr Glu
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 4145
 Lys Lys Ile Gln Val Gly Leu Gly Ala Ser Gly Lys Glu His Lys Ser
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4193
Glu Lys Glu Glu Glu Ala Gly Ala Ala Val Val Asp Val Ala Glu
1355 1360 1365

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4241
Gly Glu Glu Glu Glu Glu Glu Asn Glu Asp Leu Tyr Tyr Glu Gly Ala
1370 1375 1380 1385

atg cca gaa gtg tct gtg ctt gtc ctg tcc cga cac tcc tgg cct gtt
4289
Met Pro Glu Val Ser Val Leu Val Leu Ser Arg His Ser Trp Pro Val
1390 1395 1400

gcc tca atc tgc cac aca ctg aac ccc aga acc tgc ctg ccc tcc tac
4337
Ala Ser Ile Cys His Thr Leu Asn Pro Arg Thr Cys Leu Pro Ser Tyr
1405 1410 1415

ctg agg ggc act ttg aac aga tac tcc aac ttc tac aac aag agt cag
4385
Leu Arg Gly Thr Leu Asn Arg Tyr Ser Asn Phe Tyr Asn Lys Ser Gln
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4433
Ser His Pro Ala Leu Glu Arg Gly Ser Gln Arg Arg Leu Gln Trp Thr
1435 1440 1445

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4481
Trp Leu Gly Trp Ala Glu Leu Gln Phe Gly Asn Gln Thr Leu His Val
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4529
Ser Thr Val Gln Met Trp Leu Leu Leu Tyr Leu Asn Asp Leu Lys Ala
1470 1475 1480

gtc tct gtg gag agt ctg ctg gcg ttc tca ggg ctc tcc gca gac atg
4577
Val Ser Val Glu Ser Leu Leu Ala Phe Ser Gly Leu Ser Ala Asp Met
1485 1490 1495

ctc aat cag gcg att ggg ccc ctc acc tct tca aga ggc ccc ctg gac
4625
Leu Asn Gln Ala Ile Gly Pro Leu Thr Ser Ser Arg Gly Pro Leu Asp
1500 1505 1510

ctt cac gag caa aag gat ata cca gga ggg gtc ctc aag att cga gat
4673
Leu His Glu Gln Lys Asp Ile Pro Gly Gly Val Leu Lys Ile Arg Asp
1515 1520 1525

ggc agc aag gaa ccc agg tcg aga tgg gac att gtg cgg ctc atc cca
4721
Gly Ser Lys Glu Pro Arg Ser Arg Trp Asp Ile Val Arg Leu Ile Pro
1530 1535 1540 1545

cct cag acg tac ctg caa gct gag ggt gaa gac ggc cag aac ttg gag
4769
Pro Gln Thr Tyr Leu Gln Ala Glu Gly Glu Asp Gly Gln Asn Leu Glu
1550 1555 1560

aag aga cgg aat ctt ctg aac tgc ctc atc gtc cga atc ctc aag gcc
4817
Lys Arg Arg Asn Leu Leu Asn Cys Leu Ile Val Arg Ile Leu Lys Ala
1565 1570 1575

cat gga gat gag ggg ctg cac att gac cag ctt gtc tgt ctg gtg ctg
4865
His Gly Asp Glu Gly Leu His Ile Asp Gln Leu Val Cys Leu Val Leu
1580 1585 1590

gag gct tgg cag aag ggc cgg tgt cct ccc agg ggt ttg gtc agc agc
4913
Glu Ala Trp Gln Lys Gly Pro Cys Pro Pro Arg Gly Leu Val Ser Ser
1595 1600 1605

ctt ggt aag ggg tct gca tgc agc agc act gac gtc ctc tcc tgc atc
4961
Leu Gly Lys Gly Ser Ala Cys Ser Ser Thr Asp Val Leu Ser Cys Ile
1610 1615 1620 1625

cta cac ctc ctg ggc aag ggc acg ctg aga cgc cat gac gac cgg ccc
5009
Leu His Leu Leu Gly Lys Gly Thr Leu Arg Arg His Asp Asp Arg Pro
1630 1635 1640

cag gtg ctg tcc tat gca gtc cct gtg act gtc atg gag cct cac act
5057
Gln Val Leu Ser Tyr Ala Val Pro Val Thr Val Met Glu Pro His Thr
1645 1650 1655

gag tcc ctg aac cca ggc tcc tca ggc ccc aac cca ccc ctc acc ttc
5105
Glu Ser Leu Asn Pro Gly Ser Ser Gly Pro Asn Pro Pro Leu Thr Phe
1660 1665 1670

cat acc cta cag att cgc tcc cgg ggt gtg ccc tat gcc tcc tgc act
5153
His Thr Leu Gln Ile Arg Ser Arg Gly Val Pro Tyr Ala Ser Cys Thr
1675 1680 1685

gcc acc cag agc ttc tct acc ttc cgg tag ccctagactt ggggtcaggg
5203
Ala Thr Gln Ser Phe Ser Thr Phe Arg
1690 1695

gaaggtagag ctggagcttt tacagaaatt aaacccaaga gtttgattat
5253

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<211> 1698
<212> PRT
<213> Homo sapiens

<400> 4
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1 5 10 15
Gly Leu His Ala Tyr Pro Asp Glu Leu Ile Arg Gln Arg Val Gly His
20 25 30
Asp Gly His Pro Glu Tyr Gln Ile Arg Trp Leu Ile Leu Arg Arg Gly
35 40 45
Asp Glu Gly Asp Gly Gly Ser Gly Gln Val Asp Cys Lys Ala Glu His
50 55 60
Ile Leu Leu Trp Met Ser Lys Asp Glu Ile Tyr Ala Asn Cys His Lys
65 70 75 80
Met Leu Gly Glu Asp Gly Gln Val Ile Gly Pro Ser Gln Glu Ser Ala

[illegible]

610	615	620
Val Glu Gly Tyr Gly	Pro Ala Gly Lys Ile	Leu Leu Asp Leu Glu Gln
625	630	635
Ala Leu Ser Ser Glu Gly	Thr Gln Glu Asn Lys	Val Lys Pro Leu Leu
645	650	655
Leu Gln Leu Gln Arg Gln	Pro Gln Pro Phe	Leu Ala Leu Met Gln Ser
660	665	670
Leu Asp Thr Pro Glu Thr	Asn Arg Thr Leu His	Leu Thr Val Leu Arg
675	680	685
Ile Leu Lys Gln Leu Val	Asp Phe Pro Glu Ala	Leu Leu Leu Pro Trp
690	695	700
His Glu Ala Val Asp Ala	Cys Met Ala Cys Leu	Arg Ser Pro Asn Thr
705	710	715
Asp Arg Glu Val Leu Gln	Glu Leu Ile Phe	Leu His Arg Leu Thr
725	730	735
Ser Val Ser Arg Asp Tyr	Ala Val Val Leu Asn	Gln Leu Gly Ala Arg
740	745	750
Asp Ala Ile Ser Lys Ala	Leu Glu Lys His	Leu Gly Lys Leu Glu Leu
755	760	765
Ala Gln Glu Leu Arg Asp	Met Val Phe Lys Cys	Glu Lys His Ala His
770	775	780
Leu Tyr Arg Lys Leu Ile	Thr Asn Ile Leu Gly	Gly Cys Ile Gln Met
785	790	795
Val Leu Gly Gln Ile Glu	Asp His Arg Arg Thr	His Arg Pro Ile Asn
805	810	815
Ile Pro Phe Phe Asp Val	Phe Leu Arg Tyr Leu	Cys Gln Gly Ser Ser
820	825	830
Val Glu Val Lys Glu Asp	Lys Cys Trp Glu Lys	Val Glu Val Ser Ser
835	840	845
Asn Pro His Arg Ala Ser	Lys Leu Thr Asp His	Asn Pro Lys Thr Tyr
850	855	860
Trp Glu Ser Asn Gly Ser	Ala Gly Ser His Tyr	Ile Thr Leu His Met
865	870	875
Arg Arg Gly Ile Leu Ile	Arg Gln Leu Thr Leu	Val Ala Ser Glu
885	890	895
Asp Ser Ser Tyr Met Pro	Ala Arg Val Val Cys	Gly Gly Asp Ser
900	905	910
Thr Ser Ser Leu His Thr	Glu Leu Asn Ser Val	Asn Val Met Pro Ser
915	920	925
Ala Ser Arg Val Ile Leu	Leu Glu Asn Leu Thr	Arg Phe Trp Pro Ile
930	935	940
Ile Gln Ile Arg Ile Lys	Arg Cys Gln Gln Gly	Gly Ile Asp Thr Arg
945	950	955
Ile Arg Gly Leu Glu Ile	Leu Gly Pro Lys Pro	Thr Phe Trp Pro Val
965	970	975
Phe Arg Glu Gln Leu Cys	Arg His Thr Arg Leu	Phe Tyr Met Val Arg
980	985	990
Ala Gln Ala Trp Ser Gln	Asp Met Ala Glu Asp	Arg Arg Ser Leu Leu
995	1000	1005
His Leu Ser Ser Arg Leu	Asn Gly Ala Leu Arg	Gln Glu Gln Asn Phe
1010	1015	1020
Ala Asp Arg Phe Leu Pro	Asp Asp Glu Ala Ala	Gln Ala Leu Gly Lys
1025	1030	1035
Thr Cys Trp Glu Ala Leu	Val Ser Pro Val Val	Gln Asn Ile Thr Ser
1045	1050	1055
Pro Asp Glu Asp Gly Ile	Ser Pro Leu Gly Trp	Leu Leu Asp Gln Tyr
1060	1065	1070
Leu Glu Cys Gln Glu Ala	Val Phe Asn Pro Gln	Ser Arg Gly Pro Ala
1075	1080	1085
Phe Phe Ser Arg Val Arg	Leu Thr His Leu Leu	Val His Val Glu
1090	1095	1100
Pro Cys Glu Ala Pro Pro	Val Val Ala Thr Pro	Arg Pro Lys Gly
1105	1110	1115
Arg Asn Arg Ser His Asp	Trp Ser Ser Leu Ala	Thr Arg Gly Leu Pro
1125	1130	1135
Ser Ser Ile Met Arg Asn	Leu Thr Arg Cys Trp	Arg Ala Val Val Glu

1140 1145 1150
 Lys Gln Val Asn Asn Phe Leu Thr Ser Ser Trp Arg Asp Asp Phe
 1155 1160 1165
 Val Pro Arg Tyr Cys Glu His Phe Asn Ile Leu Gln Asn Ser Ser Ser
 1170 1175 1180
 Glu Leu Phe Gly Pro Arg Ala Ala Phe Leu Leu Ala Leu Gln Asn Gly
 1185 1190 1195 1200
 Cys Ala Gly Ala Leu Leu Lys Leu Pro Phe Leu Lys Ala Ala His Val
 1205 1210 1215
 Ser Glu Gln Phe Ala Arg His Ile Asp Gln Gln Ile Gln Gly Ser Arg
 1220 1225 1230
 Ile Gly Gly Ala Gln Glu Met Glu Arg Leu Ala Gln Leu Gln Gln Cys
 1235 1240 1245
 Leu Gln Ala Val Leu Ile Phe Ser Gly Leu Glu Ile Ala Thr Thr Phe
 1250 1255 1260
 Glu His Tyr Tyr Gln His Tyr Met Ala Asp Arg Leu Leu Gly Val Val
 1265 1270 1275 1280
 Ser Ser Trp Leu Glu Gly Ala Val Leu Glu Gln Ile Gly Pro Cys Phe
 1285 1290 1295
 Pro Asn Arg Leu Pro Gln Gln Met Leu Gln Ser Leu Ser Thr Ser Lys
 1300 1305 1310
 Glu Leu Gln Arg Gln Phe His Val Tyr Gln Leu Gln Gln Leu Asp Gln
 1315 1320 1325
 Glu Leu Leu Lys Leu Glu Asp Thr Glu Lys Lys Ile Gln Val Gly Leu
 1330 1335 1340
 Gly Ala Ser Gly Lys Glu His Lys Ser Glu Lys Glu Glu Ala Gly
 1345 1350 1355 1360
 Ala Ala Ala Val Val Asp Val Ala Glu Gly Glu Glu Glu Glu Glu
 1365 1370 1375
 Asn Glu Asp Leu Tyr Tyr Glu Gly Ala Met Pro Glu Val Ser Val Leu
 1380 1385 1390
 Val Leu Ser Arg His Ser Trp Pro Val Ala Ser Ile Cys His Thr Leu
 1395 1400 1405
 Asn Pro Arg Thr Cys Leu Pro Ser Tyr Leu Arg Gly Thr Leu Asn Arg
 1410 1415 1420
 Tyr Ser Asn Phe Tyr Asn Lys Ser Gln Ser His Pro Ala Leu Glu Arg
 1425 1430 1435 1440
 Gly Ser Gln Arg Arg Leu Gln Trp Thr Trp Leu Gly Trp Ala Glu Leu
 1445 1450 1455
 Gln Phe Gly Asn Gln Thr Leu His Val Ser Thr Val Gln Met Trp Leu
 1460 1465 1470
 Leu Leu Tyr Leu Asn Asp Leu Lys Ala Val Ser Val Glu Ser Leu Leu
 1475 1480 1485
 Ala Phe Ser Gly Leu Ser Ala Asp Met Leu Asn Gln Ala Ile Gly Pro
 1490 1495 1500
 Leu Thr Ser Ser Arg Gly Pro Leu Asp Leu His Glu Gln Lys Asp Ile
 1505 1510 1515 1520
 Pro Gly Gly Val Leu Lys Ile Arg Asp Gly Ser Lys Glu Pro Arg Ser
 1525 1530 1535
 Arg Trp Asp Ile Val Arg Leu Ile Pro Pro Gln Thr Tyr Leu Gln Ala
 1540 1545 1550
 Glu Gly Glu Asp Gly Gln Asn Leu Glu Lys Arg Arg Asn Leu Leu Asn
 1555 1560 1565
 Cys Leu Ile Val Arg Ile Leu Lys Ala His Gly Asp Glu Gly Leu His
 1570 1575 1580
 Ile Asp Gln Leu Val Cys Leu Val Leu Glu Ala Trp Gln Lys Gly Pro
 1585 1590 1595 1600
 Cys Pro Pro Arg Gly Leu Val Ser Ser Leu Gly Lys Gly Ser Ala Cys
 1605 1610 1615
 Ser Ser Thr Asp Val Leu Ser Cys Ile Leu His Leu Leu Gly Lys Gly
 1620 1625 1630
 Thr Leu Arg Arg His Asp Asp Arg Pro Gln Val Leu Ser Tyr Ala Val
 1635 1640 1645
 Pro Val Thr Val Met Glu Pro His Thr Glu Ser Leu Asn Pro Gly Ser
 1650 1655 1660
 Ser Gly Pro Asn Pro Pro Leu Thr Phe His Thr Leu Gln Ile Arg Ser

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